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Via Email to lgprogram@hg.doe.gov

SUBJECT: RIN 1901-AB21 – Loan Guarantees for Projects that Employ Innovative Technologies: Notice of Proposed Rulemaking (NOPR) and Opportunity for Comment

The following constitutes Standard & Poor's comments to the Department of Energy's (DoE) Notice of Proposed Rulemaking (NOPR) and Opportunity for Comment on RIN 1901-AB21 – Loan Guarantees for Projects that Employ Innovative Technologies.

Standard & Poor's, a division of the McGraw-Hill Companies, is the world's foremost provider of financial market intelligence, which includes independent credit ratings, indices, risk evaluation, investment research, data and valuations. An essential part of the world's financial infrastructure, Standard & Poor's has played a leading role for more than 140 years in providing investors with the independent benchmarks they need to feel more confident about their investment and financial decisions. As of August 2006, Standard & Poor's rated over $120 billion of stand-alone project financed debt.

Standard & Poor's comments should not be interpreted as an endorsement of, or opposition to, specific policy decisions or courses of action that the DoE may adopt in relation to this NOPR. Rather, in response to the public invitation to comment, these comments on credit related matters are meant to inform the DoE's decision-making process. Among the many aspects where the DoE has requested comments, we have only offered comments on areas related to the credit evaluation of these projects. For questions or clarifications on these comments, please contact the following:

Swami Venkataraman, CFA, San Francisco 415-371-5071
Swami_venkataraman@sandp.com
Arthur Simonson, New York 212-438-2094
Arthur_simonson@sandp.com
Gary Kochubka, New York 212-438-2514
Gary_Kochubka@sandp.com
Steven Dreyer, New York 212-438-7187
Steven_dreyer@sandp.com

Comment on section II. A - Technologies

In section 609.2 of the proposed regulations, DoE is proposing two possible ways of interpreting "general use." The first is if a technology has been ordered for, installed in, or used in five commercial projects in the United States. The second is if a technology has been in operation in a commercial project in the United States for at least five years.

S&P Comments: We offer no comment on the different technologies themselves, but are focused on whether, as a rating agency, we would attribute significant technology risks while assessing the credit quality of a project. Several newer technologies, including so-called clean coal technologies such as IGCC and coal-to-liquids, currently lack a commercial track record and therefore would be assigned a risk premium. We believe it is fair to say that if there are at least five operational projects in a particular technology within the United States, the perceived risk premium associated with the technology would be substantially reduced. However, we would still expect to see a reasonable track record of operations in those projects. In other words, the existence of five projects without a material track record of operations in any of them would not reduce the risk perception. A single project with a long track record of successful operation will somewhat reduce risk perception associated with a new project employing the identical technology.

Comment on section II. B – Project Costs

In section 609.10, DoE proposes that any loan guarantee may not exceed 80% of total Project Costs, which excludes initial research and development costs, the credit subsidy cost, any administrative fees paid, and operating costs after the facility has been placed in service.

S&P Comments: The definition of the project's total costs is consistent with general market practice, except that, if projects obtain a guarantee from a monoline insurer, the premium paid for such a wrap is generally included in the total cost of the project to be financed. However, its exclusion here appears consistent with the intent of the Energy Policy Act (EPAct), namely to prevent the subsidy fee itself from potentially becoming a taxpayer liability in the event of default. The 80% cap on the guarantee is also consistent with a widely used 80/20 debt/equity capital structure in project finance.

Comments on Section II D. Payment of the Credit Subsidy Cost

The DoE neither requested nor received appropriations to make partial or full payment of the Credit Subsidy Cost and that DoE's current intent is to implement the Title XVII program only

through the self-pay authority of section 1702(b)(2) of the EPAct. DoE also interprets section 1702(b) as not allowing for partial payment of the Credit Subsidy Cost by Borrower with the remainder covered by a Congressional appropriation and proposes to memorialize this interpretation of section 1702(b) of the Act in section 609.9 of the regulations.

S&P Comments: In general, issuers that benefit from guarantees, such as from monoline insurers, pay the cost of such credit support to the guarantor. However, the NOPR does not indicate how the DoE will calculate the credit subsidy payable by any particular project. Will the calculation be based on a credit rating and the associated recovery estimate provided by a Nationally Recognized Statistical Rating Organization (NRSRO)? Or will the premium be based on an underlying rating and a "capital charge estimate" similar to what NRSROs provide monoline insurers? How exactly will these inputs determine the subsidy cost payable?

The subsidy cost payable can affect a project's credit quality in different ways:

1. This cost, if financed by non-guaranteed debt from the financial markets, can weaken project economics if the cost if large or the cost of debt is high.

2. Even if financed by equity, a large subsidy cost may affect the ability or willingness of project sponsors to bring in additional equity if required during project construction and start-up. Given that many of these technologies are new and that construction contractors are generally unwilling to provide lump-sum, turnkey Engineering, Procurement and Construction contracts, especially for projects with new or unproven technologies, there is a very real possibility that sponsors may need to bring in additional equity during construction or start-up.

Greater clarity over the magnitude of these costs will be useful, although it is very possible that these costs will be too small to materially affect credit quality.

The Department of Transportation's (DoT) Transportation Infrastructure Finance and Innovation Act (TIFIA) loan guarantee program adopts a different approach. Section 2-5 of the TIFIA program guide states: "The TIFIA program is governed by the Federal Credit Reform Act of 1990 (FCRA), which requires the DoT to establish a capital reserve, or "subsidy amount," to cover expected credit losses before it can provide TIFIA credit assistance. Congress places limits on the annual subsidy amount available. Through SAFETEA-LU, Congress authorized $122 million for each Federal fiscal year from 2005 through 2009. Based on experience, this funding amount can support more than $2 billion of average annual credit assistance."

Section 3-5 of the program guide says: "Default risk is a key component of the DoT's assessment of expected losses related to the TIFIA program. The Federal Credit Reform Act of 1990 requires Federal agencies with credit programs to allocate capital, in the form of budget authority, to cover these expected losses. The DoT uses the TIFIA Capital Allocation Model to estimate credit exposure. The model employs such variables as the repayment structure, the drawdown assumptions, the nature of the dedicated revenues securing the TIFIA instrument, and most significantly the rating assigned to the TIFIA credit instrument. For this reason, the DOT requires the applicant to obtain a rating on the TIFIA credit instrument itself, in addition to a rating on the senior debt."

Will a model similar to the TIFIA Capital Allocation Model be used to determine the credit subsidy costs for DoE's program? This model seems to have calculated the credit subsidy for that program at approximately 5% of credit assistance. However, that program had transportation assets where there was no technology risks, guaranteed only up to 33% of project costs and guaranteed debt that was subordinate to other debt (although not in bankruptcy.) These differences must undoubtedly have influenced the "subsidy amount".

Comments on Section II F. Financial Structure

1. Section 1702(g)(2)(B), requires that "with respect to any property acquired pursuant to a guarantee or related agreements, the rights of the DoE shall be superior to the rights of any other person with respect to the property." DoE interprets this statutory provision to require that DoE possess a first lien priority in the assets of the project and other assets pledged as security. Because DoE believes it is not permitted by the Act to adopt a *pari passu* security structure, holders of the non-guaranteed portion of a loan or debt instrument will have a subordinate claim to DoE in the event of default.

   S&P Comments: The DoE's security position, in and of itself, is not a major credit factor. Our ratings will look at the prospect of timely debt service, and potential for post-default recovery, from the perspective of eligible lenders. To the extent the loan is guaranteed by the DoE, lenders are assured of eventual recovery of principal (up to the guaranteed amount) in the event of default. The DoE's first lien position only means that lenders will have additional recovery only if the recovery value of the asset is greater than the guaranteed amount. Since recovery up to the guaranteed amount is assured and lenders will get the collateral value above this, if any, the DoE's first lien position is not a major credit negative.

2. In the NOPR, DoE is proposing to guarantee up to 90% of a particular debt instrument for a Project, so long as DoE's guarantees do not account for more than 80 percent of Project Costs. Further, DoE is proposing to require that the guaranteed portion and the non-guaranteed portion of the debt instrument or loan be sold on a pro-rata basis and that the guaranteed portion of the debt may not be "stripped" (*i.e.* sold separately as an instrument fully guaranteed by the Federal government) from the non-guaranteed portion.

S&P Comments: This is the provision that has the greatest credit consequence. The rating associated with a partially guaranteed obligation will be substantially lower than the 'AAA' rating of a fully guaranteed instrument (which, in our opinion, benefits from the full faith and credit of the United States), although this rating will likely be higher than the project's intrinsic default risk depending upon the extent of the guarantee. This will result in a significantly higher cost of debt for the project than if it was fully guaranteed. Whether this implies that a project will be economically unviable and be unable to attract financing in the markets can only be determined on a case-by-case basis.

The disadvantage created by the partial guarantee can be overcome if the loan can be "stripped", effectively creating two tranches of debt, one with a 'AAA' rating and the second rated much lower. The DoE's reluctance to permit "stripping" presumably stems from the concern that lenders of the guaranteed portion of the debt may have no incentive to perform a rigorous economic analysis of the project, effectively resulting in both viable and unviable projects receiving the same benefit and exposing taxpayers to unnecessary risks. However, to the extent that the DoE guarantees less than 100% of the project's debt, it is for the DoE to decide whether the non-guaranteed (and stripped) portion is large enough to cause the lender of that tranche to perform adequate due diligence as may meet the DoE's expectations. In the Appendix, we discuss how we rate partially guaranteed debt.

We would also like clarification on how the guarantee will work.

i. Is the guarantee intended to be principal only or principal and interest?

ii. In the event of a default, will the DoE pay lenders immediately as required by S&P's guarantee criteria (see attached) or will there be a lengthy claims processing procedure? The latter will mean that the DoE's guarantee will not carry a 'AAA' rating.

iii. Post-default, will the DoE continue to make regular debt service payments for the life of the debt or will be DoE simply pay down all principal and accrued interest at the time of default? This may also have implications for the rating on the guaranteed debt.

3. In the NOPR, the DoE requests comments on the technology or circumstance that might warrant providing a 90% guarantee.

   S&P Comments: This question indicates that the DoE is considering the idea of guaranteeing different projects to different degrees. While different technologies maybe reliable to various degrees, the guarantee relates to the project's credit quality, which also depends upon several other factors besides the technology itself. Other important factors include the project's capital structure, the presence or absence of offtake agreements with creditworthy counterparties, EPC construction contract and the sponsor's financial strength, to name a few. Does the DoE propose to determine the guarantee percentage purely on the technology or does the DoE propose to vary its guarantee such that every project can achieve the same ultimate credit rating with the guarantee incorporated? Or something entirely different? In any case, our intention here is to merely highlight that credit quality depends on several factors other than the technology itself and we will be able to incorporate any approach that the DoE may choose.

4. In the NOPR, the DoE requests comments on whether Eligible Lenders will perform adequate due diligence in the absence of assuming some amount of risk

   S&P Comments: The answer to this question depends upon whether DoE expects due diligence specifically from "eligible lenders" who are guaranteed or if the DoE merely wants that some lender to the project performs significant due diligence as they would if there were no guarantees. As discussed above, if the DoE guarantees 80% of the project's debt but allows stripping, it is arguable that the lending institution that benefits from the guarantee may not perform significant due diligence. However, the lender for the remaining 20% needs to evaluate the commercial viability of this project just like any other that the institution may lend to.

5. In the NOPR, the DoE requests comments on the applicability of practices employed by other Federal agencies to DoE's loan guarantee program

   S&P Comments: Here we merely note some important features of the DoT's TIFIA program that has already been referenced above:

- Highway, transit, passenger rail, certain freight facilities, and certain port projects may receive credit assistance through the TIFIA program in the form of Direct Lending, Loan Guarantees, or lines of credit – The DoE is only considering guarantees

- It is anticipated that, in many cases, the TIFIA credit instrument will be junior (*i.e.*, subordinate) to the project's capital markets or commercial bank debt in the priority of its lien on the project's cash flow. However, in the event of bankruptcy, insolvency, or liquidation, the DOT is required by statute to have a parity lien with respect to other creditors. – The DoE will always have a senior lien on the collateral. Also, this program allows for separate tranches of debt, one of which will be fully guaranteed by the federal govt.

- TIFIA assistance must not exceed 33 percent of reasonably anticipated eligible project costs. Also, the TIFIA assistance must not exceed the amount of senior debt – The DoE's program is significantly more generous in light of energy technology uncertainties

- The DoT applicant must obtain an investment-grade rating (Baa3/BBB-or higher) on the senior debt obligations and a rating on the TIFIA credit instrument. – Ratings are a requirement in the DoE program as well but there are no minimum rating levels required

- The TIFIA program appropriates credit subsidy costs and does not require its payment by the sponsor. These costs are calculated under the TIFIA Capital Allocation Model and are adjusted on an annual basis based on rating changes. The Railroad Rehabilitation & Improvement Financing (RRIF) program, on the other hand, requires project sponsors to pay subsidy costs.

6. In the NOPR, the DoE requests comments on whether DoE's proposal will facilitate the goal of offering loan guarantees to encourage early commercial use of innovative technologies.

   S&P Comments: If the guarantee is 100%, or if the DoE removes the "pro-rata" or the "no stripping" requirements, then there will clearly be a substantial reduction in the cost of debt, supporting the early commercial use of innovative technologies. If not, the benefit will be limited to a smaller improvement of the credit rating on the debt by a few notches over the standalone rating of the project, with the corresponding cost reduction.

7. DoE also will consider whether Project Sponsors have a significant financial commitment to the project and solicits comments on the merits of adopting a minimum equity percentage requirement for projects.

S&P Comments: In making credit assessments or assigning credit ratings to project debt Standard & Poor's will factor in the sponsors' creditworthiness, the extent of equity contributed to the project and the sponsors ability to bring in more equity should that be necessary. We do not have a preference on whether the DoE should mandate a minimum equity level. Other sponsor characteristics that would also be important from a credit perspective include the sponsor's project mgmt and operational skills.

8. DoE intends to consider whether a Project Sponsor will rely upon other government assistance (*e.g.*, grants, tax credits, other loan guarantees) to support financing, construction or operation of a project.

S&P Comments: All forms of assistance that maybe available to a project will be factored into our analysis and we have no preference on whether the existence of other forms of assistance should be negative from a loan guarantee perspective. However, the term "other Govt assistance" deserves further clarification. Will state-level incentives for a project be considered "other Govt assistance"? For instance, the state of Nevada supports solar projects by mandating that a part of its Renewable Portfolio Standard (RPS) energy production must come from solar power. There may also be other state-level incentives, both financial and otherwise.

9. Finally, DoE is proposing to require with submission of Applications, a credit assessment for the project without a loan guarantee from a nationally recognized rating agency, where the size and estimated cost of the project justify such an assessment. Additionally, DoE is proposing to require not later than 30 days prior to closing, that Applicants provide a credit rating from a nationally recognized rating agency reflecting the Final Term Sheet for the project without a Federal guarantee.

S&P Comments: We can provide the DoE with estimates and ratings as required. However, we would like to note that the credit assessments provided at the time of application will likely have to be limited to a rating category (without the '+' and '-' signs that normally accompany Standard & Poor's ratings). This is because project documentation will likely be in a very preliminary state at this point. We may even need to make assumptions about lending terms, construction contract provisions etc. Also, will the DoE need a recovery estimate for these projects in the event of a default? These estimates will be based on project-specific default scenarios and post-default outcomes.

Appendix

For its purposes, the DoE only requires the underlying credit quality of the project in order to determine the subsidy cost, which is determined by Standard & Poor's traditional Project Finance methodology. The two methodologies discussed below apply rather to the rating on the guaranteed debt that is issued to the market. This rating, and projects' ability to raise debt in the financial markets at these ratings, will however influence the overall success of the loan guarantee program, whose mission is to support commercial implementation of innovative technologies.

Partially guaranteed instruments – Methodology I

A guarantee % that is less than 100%, combined with the "pro-rata" and "no stripping" requirements will constrain the rating on the debt to the intrinsic underlying credit quality of the project. This is because of Standard & Poor's emphasis on the timely and complete payment of debt service. The rating benefit of the guarantee will be limited to the improved recovery prospects with a guarantee. Given that these projects use as yet commercially unproven technology post-default recovery will likely be limited since the likely default scenario is probably one of technological underperformance. Since the DoE has a first lien on the project's assets, it is very unlikely that lenders will have any incremental recovery over and above the DoE's guarantee percentage. Thus, in most cases, any ratings uplift for recovery will simply reflect the extent of the DoE's guarantee. A guarantee of 90% of by the DoE translates to a recovery percentage of at least 90%. Under S&P's recovery criteria, this leads to a recovery rating of '1', leading to a rating on the debt that is 2 notches above the project's default risk rating. A guarantee between 70% and 90% will imply a rating 1 notch above the default risk rating while a guarantee below 70% will result in the debt being rated at the default risk rating.

A substantially different rating outcome will result if the guarantee is 100%, or if the DoE removes the "pro-rata" or the "no stripping" requirements. In these scenarios, the guaranteed and non-guaranteed portions will likely be rated as two different instruments, with the guaranteed portion being rated 'AAA' and the non-guaranteed part at the project's intrinsic default risk rating.

Partially guaranteed instruments – Methodology II

Standard & Poor's will also consider an alternative approach to rating partially guaranteed debt. This methodology uses structured finance techniques for rating multiple-credit-dependent

obligations (MCDOs), of which partially guaranteed obligations (PGOs) are one type. This approach has been used primarily in rating emerging market debt that is partially guaranteed by higher rated entities. However, results for this methodology will likely generate results similar to those of Methodology I. Here, we briefly explain this methodology. We also enclose additional documentation on the analytical reasoning behind this approach.

Like the first methodology, this approach also seeks to provide credit for recovery expectations rather than simply rate an instrument at its probability of default. However, it takes a probabilistic approach to loss and recovery expectations. If "event of default" is treated as the first dollar of loss, then the probability of default of a PGO is not improved by this guarantee because the coverage is partial, and hence leaves that first dollar of potential losses uncovered. At the same time, such coverage undoubtedly reduces the probability of greater losses. In this case, a 90% guarantee from the DoE means that the possibility of a loss greater than 10% is zero. This should be considered a positive contribution to the overall credit quality of the instrument.

Investors create and modify their portfolios with the intention to meet their investment goals and risk profiles. By reducing their losses, they can limit their downside risk and ensure higher returns. "Reducing losses" means reducing the probability of higher losses and increasing the probability of smaller losses. Therefore the question of controlling the credit quality of an investment portfolio is actually a question of controlling the probability distribution of its losses.

Standard & Poor's models PGOs statistically to arrive at a probability distribution of losses, including the mean and standard deviation. These are then compared with the same parameters for benchmark corporate bonds of various ratings. PGOs can be rated at a level where the mean and standard deviation of losses is less than, or equal to, the benchmark corporate bond of that rating. The majority of PGOs have smaller standard deviations than those of the benchmark bonds with similar mean losses. This implies that the mean value comparison usually determines what credit quality of the benchmark bond should be considered acceptable, and thus the rating on the PGO. Given the primacy placed on timely payment of interest and principal, the rating elevation over the project's underlying rating is usually limited to three notches above the standalone rating. Benchmark bond parameters are determined largely based on Standard & Poor's default studies.

The basic model will not assume any recovery since the DoE has the first lien on the project's assets. Additional adjustments can be accommodated in the analysis for specific project recovery rates that maybe higher than the DoE guarantee percentage. For a more detailed

explanation of the methodology, please refer to the following articles which are attached to these comments:

1. "Partial Credit Guarantees Accepted on Structured Finance Emerging Market Transactions", published Oct 24, 2001

2. Global MCDO Criteria Is A Natural Extension Of Standard & Poor's Established Rating Methodologies", published Jan 10, 2006

Additional Comments
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Partial Credit Guarantees Accepted on Structured Finance Emerging Market Transactions

Credit Analysts: Nancy Gigante Chu, New York (1) 212-438-2429; Rosario Buendia, New York (1) 212-438-2410; Cesar Fernandez, New York (1) 212-438-2681

NEW YORK (Standard & Poor's) Oct. 24, 2001--Standard & Poor's today announced that its new partial guarantee model, an extension of its multiple-credit-dependent obligations (MCDO) criteria, will enable more emerging market issuers to achieve investment grade ratings on their structured financings. No longer will issuers need to provide 100% credit enhancement in order to achieve a rating that exceeds a company's issuer credit rating. Standard & Poor's has created a template that lists all the required inputs necessary to run the new model (see list).

"This new methodology represents a revolution in the established criteria broadly used by rating services," said Rosario Buendia, managing director of the Latin America Structured Finance group. "We have acknowledged this specific need and built a bridge between the market itself and this precise market need."

Companies in Latin America and other emerging markets stand to benefit the most from Standard & Poor's new rating methodology since it will be a more inexpensive and easily attainable way of reaching an investment grade level and, thus, reducing the cost of financing in the local and international money markets.

Furthermore, issuers will not be the sole beneficiaries of this new product: Monoline insurance companies and other guarantors will be able to better manage their portfolios, as well as reduce their capital charge requirements. In addition, intermediaries will now receive more proposals from companies that were unable to attain an investment grade level without enormous transaction costs prior to the creation of this financial instrument.

With this innovative model, a structured finance issuer will no longer need to provide 100% credit enhancement to enhance a rating above its issuer credit rating. Now, with only a fraction of the total debt service of a new debt issuance, any corporation will be able to attain a specific target rating on an obligation, provided there is a sufficient percentage of coverage to achieve that rating and the target rating falls within the boundaries of the new criteria.

Consequently, the obligations that undergo this process become partially guaranteed securities, where the credit of certain parts of the principal and interest are guaranteed separately by higher-rated guarantors. Based on this method, the rating of the partially guaranteed securities will either be higher than or equal to the weakest credit ratings of the entities that combine their cash flows, provided that the credit enhancement percentage coverage allocated by the guarantor is sufficient.

"As Latin America and other emerging markets brace for a global economic downturn, companies located in these regions will have to look for creative ways to meet their local and cross-border funding needs," Ms. Buendia said. "Because of investor wariness, only the more financially stable companies

may be able to continue financing plans established prior to the Sept. 11 terrorist attacks in the U.S. Many companies will have to reevaluate their strategies and decide how best to proceed."

"Standard & Poor's recognizes that the needs of many emerging market companies have changed and will continue to change. In order to anticipate these changes and meet the current needs of our customers, we will continue to monitor market developments and create products and services to help our customers achieve their financing goals," Mr. Buendia continued.

Weak Link Approach No Longer Constrains Emerging Market Ratings

While the weak link approach is a widely used principle within structured finance, Standard & Poor's has recognized the need to look beyond this approach and develop models, such as the partial guaranty model, to address the needs of different market sectors. In its purest sense, the weak link approach requires that a rating be constrained by the lowest credit rating of an obligor providing credit enhancement in a transaction, regardless of the probability of the event occurring.

In other words, the approach assumes that if the risk of a credit event exists, then the event will happen. In order to rate a structure, the transaction must be fully protected from losses resulting from this event. In the past, the weak link approach has precluded many companies from achieving the coveted investment grade rating because an event of default occurs when the first dollar is lost. Since a partial guaranty, by definition, will not cover 100% of losses, the structure is not fully protected. No rating enhancement above the probability of the event occurring could be given.

"We believe that our partial guarantee model will meet our clients' needs by offering them more possibilities to enhance ratings on their securities, thereby opening up more opportunities for them in the capital markets," said Nancy Gigante Chu, a director in the Latin America Structured Finance group.

However, the contribution to the overall credit quality of the transaction that a partial guaranty brings cannot be ignored. For companies in emerging markets, where the probability of a credit event occurring is equivalent to its foreign currency rating, which in many cases is non-investment grade, the question is: How much of a guaranty is needed to prompt an elevation of the credit rating above the original company's rating? The partial guaranty model provides the answer to this question.

The Methodology of the Model

Before explaining the answer to this question, a brief discussion of the methodology used to develop the partial guaranty model is necessary.

The methodology is a comprehensive analysis of the unique types of credit risk associated with complex credit transactions. It pays particular attention to factors that affect the cash flow loss of the transaction, such as the timing, amount, and volatility of cash flow loss due to defaults. In essence, this method identifies the unique probability distribution of cash flow loss of the transaction.

The first step in the new method is to identify all possible cash flows with default expectations of a complex-credit transaction. It specifies the cash flow pattern of each credit of the transaction defaulting at each payment date. This is done by applying the empirical default rate of each underlying credit to the

cash flow of the first year, the second year, and so on until maturity. Given the empirical default rates of the various underlying credits, there are numerous possible cash-flow interruptions due to defaults. The interruption is defined as "loss," meaning that the portion of the future cash flow after the point of default will be forever terminated.

With all possible losses, the new method develops a probability distribution function of cash flow loss for the transaction that has a unique set of average and standard deviation of loss. Since each corporate bond credit rating has its empirical default rate, it is possible for the new method to compare the results of its analysis with the probability distributions of cash flow loss associated with each corporate bond's credit rating. The credit rating on the complex-credit transaction is determined only when its average and standard deviation of loss are lower than those of the corporate bond of a specific rating with similar payment terms. The rating issued on the transaction will be the one that most closely resembles other bonds of that rating category.

An Example of a Rating With a Partial Guaranty

So to answer the original question about how much of a guaranty is sufficient to enhance a rating above the default rating of the underlying security, an example is necessary (see list). If a company is located in Brazil and has a global scale rating of double-'B'-minus, this list will provide all the inputs necessary to run the partial guarantee model. Given these facts, the company can improve the rating of its unsecured corporate bond to an investment grade level--in this case, the target rating is triple-'B'-minus--by having a triple-'A' rated guarantor provide a partial credit guarantee policy for 40% of the debt service.

While a partial guaranty of 40% is sufficient to enhance the rating on the hypothetical bond used in this example, the model is very sensitive to changes in the inputs of the model. Even slight changes to these inputs can substantially increase or decrease the partial guaranty amount.

If a partial guaranty policy is the preferred form of credit enhancement, the policy must be irrevocable and unconditional, similar to 100% financial guaranties. Unlike a financial guaranty, however, the guarantor must relinquish all rights of recourse against the obligor for any payments made under the guaranty because, as part of the model's recovery assumption, the bondholder will have direct recourse to the obligor, in addition to all other remedies, following an obligor default.

Partial Guarantee Model Template

Standard & Poor's has created a readily available template that lists all the required inputs necessary to run the model. These mandatory inputs are as follows:

- Target rating;
- Type of rating, such as global or national scale;
- Type of guarantee, such as principal and interest coverage or specific amount in absolute dollar terms;
- Issue credit rating (the obligor's rating if it is a senior unsecured obligation or the issue credit rating if it is a future flow securitization);
- Guarantor's rating;
- Correlation between obligor and guarantor; and
- Terms and conditions of the transaction.

Boundaries of the Model

As noted above, the multiple-credit-dependent obligations criteria formed the conceptual basis for the development of the partial guaranty model. As with most Structured Finance criteria, there are certain limitations on the final output. These limitations are as follows:

- The maximum rating elevation is three notches.
- Issue credit ratings can never be equal to the rating of the guarantor, and, therefore, can never be rated triple-'A'.
- The model does not apply to short-term obligations because of the importance of timeliness of short-term ratings.
- The guaranty must be in a form that is highly liquid and whose value has little volatility. The most easily valued and liquid form of a guaranty would be the promise to pay cash in a specific amount. It is possible, however, to enhance the rating by pledging collateral. Immediately following a default, the trustee would be required to sell the collateral. Rating enhancement is possible but it would depend on the overcollateralization levels. Sample Inputs for Standard & Poor's Partial Guarantee Rating Model Target Rating BBB- Type of Rating Global scale Type of Guarantee Principal and Interest coverage Issuer Credit Rating BB- Guarantor's Rating AAA Correlation between Obligor & Guarantor None Terms and Conditions Five-year, 9% interest rate

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STANDARD &POOR'S STRUCTURED FINANCE

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Global MCDO Criteria Is A Natural Extension Of Standard & Poor's Established Rating Methodologies

Primary Credit Analyst: Cesar Fernandez, New York (1) 212-438-2681; cesar_fernandez@standardandpoors.com
Secondary Credit Analysts: Juan Pablo De Mollein, New York (1) 212-438-2536; juan_demollein@standardandpoors.com. Nancy Gigante Chu, New York (1) 212-438-2429; nancy_chu@standardandpoors.com

In May 2001, Standard & Poor's Ratings Services introduced a new methodology for assigning credit ratings to direct pass-through securities that are multiple-credit-dependent obligations (MCDO). Since then, we have rated a number of transactions using our criteria. Predominantly, our MCDO criteria have been used to rate partially credit guaranteed securities in emerging markets, although the methodology has also been applied to synthetic and derivative securities in the U.S. market. This methodology yields a rating seemingly different to other Standard & Poor's ratings because it is based on attributes that supplement an analysis centered on just probabilities of default. This article outlines the meaning of ratings assigned to MCDO securities within the framework of Standard & Poor's already established rating methodologies.

MCDO Criteria Incorporate Bondholder Protection

Depending on its structure, MCDO securities can be classified into one of three types of direct pass-through obligations:

- Partially guaranteed securities (where certain parts of the financial obligation are jointly guaranteed by two entities, an underlying obligor, and a financial guarantor);
- Synthetic securities (whose cash flows are backed by a static pool of financial obligations); and
- Derivative securities (whose payment terms are linked to a finite number of reference credits).

The MCDO criteria replace the weak-link approach, in which structured securities with multiple obligors are rated based on the weakest (that is, lowest rated) obligor, without regard for the incremental bondholder protection derived from partial guarantees or other forms of credit support. The MCDO methodology, instead, bases the rating on the relative strength and potential volatility of the multiple combined cash flow sources in a transaction and incorporates all sources of bondholder protection. Thus, in a partially credit guaranteed transaction, the combined cash flow is derived from the obligor and the guarantor's cash flows pledged to the structure, while in a synthetic/derivative transaction the combined cash flow stream is derived from all participating obligors' cash flows.

MCDO Model Based On Combined Cash Flow Analysis

Standard & Poor's assigns a rating on an MCDO security based on its analysis of the combined cash flows. The cash flow analysis produces both a distribution of expected loss and an expected volatility of loss, by incorporating the terms, default risk, and loss given default of each underlying obligor participating in the structured security. Both the level of expected cash flow losses, as measured by the mean of the distribution, and the volatility of cash flow losses, as measured by the standard deviation of losses, are then benchmarked to similar statistics for single obligor securities with identical payment terms, with default risk ranging from the lowest rated obligor in the multiple obligor security and loss given default risk identical to that assumed for the obligors in the MCDO security. Thus, an MCDO security could be rated higher than its weakest obligor, with the enhancement limited such that both

the mean of cash flow loss distribution and standard deviation of cash flow losses remain at or below these risk measures as calculated for the single obligor benchmarking securities.

Because loss given default assumptions for obligors are based on broad historical averages for the probabilities of default of senior unsecured debt and assumed to be identical for all obligors, using the historical default experience as the dominant basis for comparison is intended to preserve the overall comparability of ratings.

Corporate And Issue Credit Ratings Represent Probability Of Default

Generally, a Standard & Poor's rating represents the probability of default of a security. Standard & Poor's assigns two types of credit ratings: one to corporate issuers (corporate credit rating or CCR) and the other to specific corporate debt issues (issue credit rating).

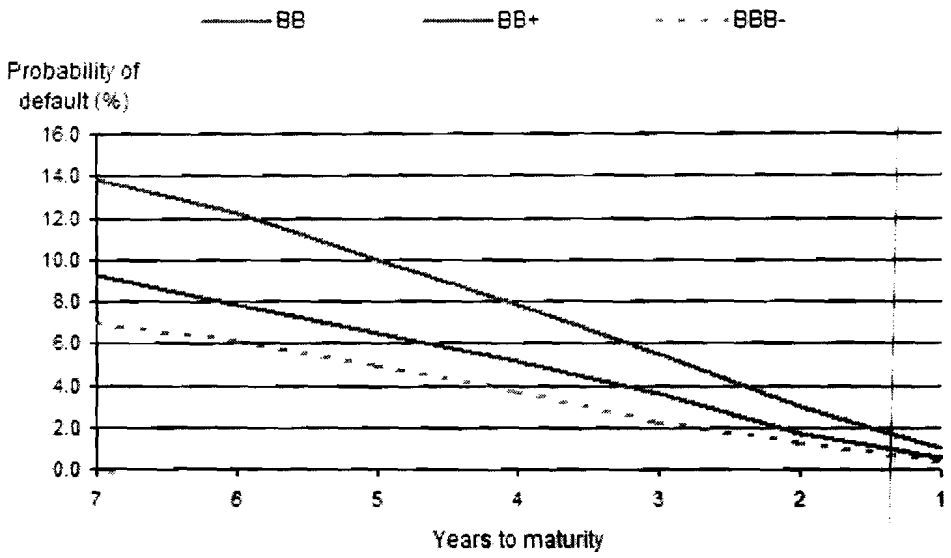
Corporate credit ratings indicate default probability of all financial obligations

A Standard & Poor's CCR is a current opinion of the creditworthiness of an issuer's overall capacity to pay its financial obligations. This opinion focuses on the issuer's ability and willingness to meet its financial commitments in full and on a timely basis. Payment as promised is therefore critical regarding all debt issues. A corporate credit rating indicates the likelihood of default regarding all financial obligations of the firm, since companies that default on one debt type virtually always stop payment on all debt types. Therefore, this rating generally indicates the default probability of all financial obligations of a company, while at the same time it does not reflect any priority or preference among obligations.

Standard & Poor's, through its analysis of empirical observations, has assigned to each specific rating level a corresponding numeric probability of default. The results of such analysis are based on information extracted from Standard & Poor's proprietary database, CreditPro® 6.2, which draws on the rating histories of more than 11,150 rated obligors between Dec. 31, 1980, and Dec. 31, 2004, and is updated quarterly.

The chart shows a sample of the results of Standard & Poor's default study for corporate bonds rated 'BB' through 'BBB-', representing the cumulative probabilities of default for given years. (The report, "Annual Global Corporate Default Study: Corporate Defaults Poised to Rise in 2005," published Jan. 31, 2005, is available on RatingsDirect, Standard & Poor's Web-based credit analysis system, at www.ratingsdirect.com.) Thus, when a firm whose corporate credit rating is 'BBB-' issues a senior unsecured bond with a seven-year final maturity, the bond performs, on a statistical basis, similarly to other 'BBB-' credits. As a group (that is, a portfolio of similarly rated obligations) those credits have exhibited cumulative seven-year default rates of 6.93%. As expected, this default rate progressively diminishes over time as the bond moves closer to maturity, as the 'BBB-' curve shows.

Cummulative Default Probability For Given Ratings And Years



Source: Standard & Poor's 2004 Default Study.

Issue credit ratings reflect recovery prospects and bankruptcy priority
An issue credit rating represents the current opinion of the creditworthiness of an obligor regarding a specific financial obligation. However, the issue credit rating, while taking into consideration the full and timely aspect of the debt repayment (and thus, the probability of default of the underlying obligor), considers the recovery prospects associated with the specific debt being rated, as well as the priority in bankruptcy of such debt obligation. Consequently, while issue credit ratings are also based on the probability of default of the underlying obligor, Standard & Poor's notches up or down from the firm's CCR (as a reference point) for the relative rankings in the restructuring or liquidation process.

Standard & Poor's would notch down the unsecured debt rating if unsecured creditors were likely to have lower than usual recoveries due to:

- Debt subordination (a large amount of secured debt); and
- Structural subordination (unsecured debt issued at the holding company level if there is substantial debt at the subsidiary level).

As a result, these obligations (subordinated debt issuances) are typically rated lower than senior obligations, to indicate the lower priority in bankruptcy. However, the lower rating does not reflect a higher probability of default of the obligor on those issuances, as the probability of default is the same as the CCR of the firm.

Standard & Poor's policy is to also notch above the CCR of a company under the condition that the debt issue is well secured and the recoveries from the underlying collateral can be realized in a well-defined timeframe in relation to the rating level to achieve.

Like Issue Credit Ratings, MCDO Ratings Help Investors Gauge Relative Risk

Because an MCDO rating denotes the weighted average credit quality of an underlying portfolio based on its expected loss profile, a form of notching is used to distinguish the incremental credit protection of the MCDO security vis-

à-vis the holder of an unsecured obligation. The likelihood of default for a MCDO security should correspond to the probability of default associated with the credit rating of the underlying obligor with the weakest credit profile, while the credit profile of the MCDO security, after an analysis that considers its different cash flow streams (rather than just the probability of default), should correspond to that of a higher rated security.

The MCDO methodology currently includes a relative limit on the degree of enhancement that can be achieved through the use of this methodology. This rule judgmentally overweights the default risk of the weakest-link obligor in the overall risk assessment. Thus, MCDO obligations rated to date are rated no higher than three rating notches over the weak-link obligor.

The ratings assigned to MCDO securities are largely based on an equation given by the implied default probabilities, as expressed by the default frequency and the loss severities of the underlying assets. This process resembles the methodology for structured finance ratings for transactions that are backed by a diversified pool of assets; for example, residential mortgages backing a residential mortgage-backed security or RMBS. Thus, the starting point for assigning both an issue credit rating to an RMBS transaction and an MCDO rating (in the context of a partial credit guarantee transaction, for example) is the determination of the underlying assets' default risk. Both rating approaches then consider the loss and recovery prospects of the resulting security. In both cases, the rating assignment is accomplished by incorporating collateral (that is, pledge of assets for RMBS credit ratings; combined cash flow streams for MCDO ratings), covenants, and other specific structural features that could affect an investor's prospects for recovery. While the approaches may be different, the end result is the same, namely a rating that gives investors a means of weighing the relative risk of investing in a specific security. The MCDO approach is, therefore, another means by which Standard & Poor's brings to the market more innovative ways to analyze fixed-income securities while maintaining its rating consistency across methodologies.

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